

# Cement Production



## Proposed Rule: Mandatory Reporting of Greenhouse Gases

*Under the proposed Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain cement production (as defined below) would report emissions from cement production processes and all other source categories located at the facility for which methods are defined in the rule. Owners or operators would collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.*

## How Is This Source Category Defined?

Under the proposal, the cement production source category consists of each kiln and each inline kiln/raw mill at any Portland cement manufacturing facility, including alkali bypasses and kilns and inline kilns/raw mills that burn hazardous waste.

## What GHGs Would Be Reported?

The proposal calls for cement production facilities to report the following emissions:

- Carbon dioxide (CO<sub>2</sub>) process emissions from calcination, reported for all kilns combined.
- CO<sub>2</sub>, nitrogen dioxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>) emissions from fuel combustion at each kiln and each stationary combustion unit by following the requirements of 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources). The information sheet on general stationary fuel combustion sources summarizes the proposal for calculating and reporting emissions from these units.

In addition, each facility would report GHG emissions for any other source categories for which calculation methods are provided in other subparts of the rule.

## How Would GHG Emissions Be Calculated?

For CO<sub>2</sub> emissions from kilns, the proposal calls for facilities to select one of two methods, as appropriate:

- Kilns with certain types of continuous emissions monitors (CEMS) in place would report using the CEMS and follow the methodology of 40 CFR part 98, subpart C to report total CO<sub>2</sub> emissions from calcination and fuel combustion. At other kilns, the use of CEMS would be optional.
- Facilities without CEMS would calculate CO<sub>2</sub> process emissions as the sum of clinker emissions and emissions from raw materials.
  - Clinker emissions are calculated monthly from each kiln using:
    - Monthly clinker production (required to be measured).
    - A kiln-specific, monthly clinker emission factor calculated from the monthly carbonate and noncarbonate content of the clinker (required to be measured).
    - Quarterly cement kiln dust discarded (required to be measured).

This document was developed for the *Proposed* Mandatory GHG Reporting Rule. For the final document, please visit the *final* [Mandatory Reporting of Greenhouse Gases Rule](#).

- A quarterly kiln-specific fraction of calcined material in the cement kiln dust not recycled to the kiln (measured or default values can be used).
- Raw material emissions are calculated annually from:
  - The annual consumption of raw materials.
  - The organic carbon content in the raw material (measured annually for each type of raw material, or a default value of 0.2 percent may be used).

## What Information Would Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), the proposal calls for each cement production facility to report the following information:

- Total annual CO<sub>2</sub> emissions from all kilns.
- Annual clinker production.
- Number of kilns.
- Annual cement kiln dust production and the total annual fraction recycled to the kiln.
- Annual average carbonate composition (in clinker).
- Annual average fraction of calcination achieved at each kiln for cement kiln dust and each carbonate.
- All site-specific emission factors developed.
- Percent organic carbon content of the raw material.
- Annual consumption of raw materials.

Facilities that use CEMS would also report the data specified in 40 CFR 98.34(d) of subpart C (General Stationary Fuel Combustion Sources).

## For More Information

This series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the proposed rule. However, these information sheets are not intended to be a substitution for the rule. Visit EPA's Web site ([www.epa.gov/climatechange/emissions/ghgrulemaking.html](http://www.epa.gov/climatechange/emissions/ghgrulemaking.html)) for more information, including the proposed preamble and rule and additional information sheets on specific industries, or go to [www.regulations.gov](http://www.regulations.gov) to access the rulemaking docket (EPA-HQ OAR-2008-0508). For questions that cannot be answered through the Web site or docket, call 1-877-GHG-1188.